SECTION 07 27 26 FACTORY FLUID-APPLIED MEMBRANE AIR BARRIER

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| **Sustainability Notes:** |
| * Securock® ExoAir® 430 Panel has a pre-consumer recycled content of 72%. |

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| **Product Summary:** |
| * Securock® ExoAir® 430 System – is the only gypsum sheathing panel coated with a factory-applied fluid air-barrier membrane. The system brings together two proven technologies– USG’s Securock Glass-Mat Sheathing and Tremco’s ExoAir fluid air/water barrier membrane. * The Securock ExoAir 430 System is designed for use in commercial construction application. Installation of the System requires installer training to allow for the optimal air barrier performance it was designed for. * Securock ExoAir 430 System’s air barrier membrane is applied in a fluid state to the face of the glass mat sheathing panel to be an independent component of the wall assembly as in traditional high performance air barrier systems. An exterior-facing membrane is vital to the performance of an air barrier to allow for an air-tight direct connection of membrane to sealants and for nail gasketing/sealability. The membrane is applied in a controlled factory environment that provides a superior bond, proper mil thickness and membrane uniformity. * The system is designed for use under a variety of exterior cladding where traditional a separate gypsum sheathing panel and air barrier would have been used. |

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| **Note to specification writers:** |
| * This guide specification section specifies Securock ExoAir 430 as a fluid-applied, synthetic permeable, vapor retarder membrane-type air barrier. ExoAir 430 membrane is factory fluid applied to USG’s Securock Glass-Mat Sheathing substrate at minimum 20 mils. Used in conjunction with accessory components, the system provides significant elastomeric qualities that protect against failure resulting from long-term wall assembly differential movement or water penetration at the fastener penetration. * The SE430 system is a complete system in that it provides the installer with all the accessory products necessary to satisfy every connectivity point of the building envelope. All products have been fully testing for chemical compatibility. * To provide further assurance of protection, USG and Tremco have gone beyond traditional manufacturer testing and performed testing on related accessories that may typically connect to the Securock ExoAir 430 System during installation. * The System’s membrane and detailing accessories are formulated to include 12 month UV resistance, providing the flexibility for the membrane to be exposed during the construction process and to be used with rainscreen systems with open joints. The membrane withstands temperatures up to 240°F (115°C). * Securock ExoAir 430 System is approved as a component in wall assemblies tested for compliance with NFPA 285; contact Tremco for test details. * The Securock ExoAir 430 System Passes ASTM E 84 testing criteria for flame spread and smoke development. * This section is readily edited utilizing several common commercial specification software tools. * For specification assistance, please email [USG4YOUtechnicalsupport@usg.com](mailto:USG4YOUtechnicalsupport@usg.com) and you will be contacted by a USG and/or Tremco Technical Representative. |

1. GENERAL
   * + 1. RELATED DOCUMENTS

Retain or delete this article in all Sections of Project Manual.

* + - 1. SUMMARY
         1. Section Includes:

Combination of wall sheathing with factory fluid-applied, vapor-permeable, air and water resistive membrane.

Accessories.

* + - * 1. Related Requirements:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 042000 "Unit Masonry" for flexible flashing components integrating with transition materials specified in this Section.

Section 042613 "Masonry Veneer" for flexible flashing components integrating with transition materials specified in this Section.

[**Section 061000 "Rough Carpentry"**] [**Section 061053 "Miscellaneous Rough Carpentry"**] for plywood backing panels.

Section 061600 "Sheathing" for wall sheathing requirements for portions of the Work not requiring board product air barriers specified in this Section.

Section 072500 "Weather Barriers" for weather barriers, including [**building paper**] [**flexible flashing**] [**and**] [**building wraps with air-barrier properties**].

Division 07 roofing Sections for roof assembly air-barriers and interface coordination.

Division 08 exterior openings sections for framing for [**aluminum-framed entrances and storefronts] [aluminum windows] [glazed aluminum curtain walls] [louvers and vents]** receiving air barrier transition assembly specified in this Section.

* + - 1. DEFINITIONS

Retain terms that remain after this Section has been edited for a project.

* + - * 1. Air and Water Barrier Accessory: A transitional component of the air and water barrier that provides continuity.
        2. Air and Water Barrier Assembly: The collection of air and water barrier materials and accessories applied to an opaque wall, including joints and junctions to abutting construction, to control air and water movement through the wall.
        3. Factory Fluid-Applied Air and Water Barrier Panel: A glass mat-faced, moisture and mold-resistant gypsum panel. The panel features a non-combustible core integrated with a factory fluid-applied permeable air and water barrier membrane applied to the exterior/exposed side of the panel.
        4. Fluid-Applied Air and Water Barrier Material: A uniform factory fluid-applied primary element that provides a continuous barrier to the movement of air and water.
      1. ADMINISTRATIVE REQUIREMENTS
         1. Coordination:

Coordinate installation of factory fluid-applied air and water barrier panel with framing installation and subsequent operations that impact finished envelope air-barrier work.

Retain "Preinstallation Conference" Paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at [**Project site**] <**Insert location**>.

Review factory fluid-applied air and water barrier panel and accessory materials installation including:

Joints between factory fluid-applied air and water barrier panels and material transitions to abutting construction.

Requirements for forming and sealing penetrations of air barrier by other trades.

Installation sequence of factory fluid-applied air and water barrier panels.

Project and manufacturer's details.

Mockups, testing, and inspection requirements.

Coordination and sequencing of air barrier work with work of other Sections.

* + - 1. ACTION SUBMITTALS
         1. Product Data: For each type of factory fluid-applied air and water barrier assembly. Indicate component materials and dimensions and include construction and application details including:

Framing preparation instructions [**and recommendations**].

Membrane, transitions, sealants, and accessories.

Preparation and treatment requirements for transition substrates, and compatibility information.

Test data on air and moisture infiltration.

Include standard drawings illustrating manufacturer's written installation and finishing instructions applicable to Project, including details for joints, counter flashings, penetrations, terminations, and tie-ins to adjacent construction.

Illustrate interfaces with other work that forms part of air barrier to demonstrate continuity.

Where standard drawings do not address Project conditions, provide Shop Drawings prepared for Project to illustrate proposed construction.

Retain “Shop Drawings” Paragraph below where standard drawings do not address Project conditions and to illustrate proposed construction.

* + - * 1. Shop Drawings: Include coordinated construction detail drawings including:

Fabrication and installation layouts of coordinated exterior wall assemblies where factory fluid-applied air and water barrier panels are used.

Details illustrating inside corners, outside corners, joints, head-of-wall, base of wall, counter-flashings, penetrations, terminations, control and expansion joints and tie-ins to adjacent construction.

Illustrate interfaces with other work that forms part of air barrier to demonstrate continuity.

Accessories: Include details of joint flashing, trim, and sealant systems

* + - 1. INFORMATIONAL SUBMITTALS

Coordinate "Qualification Data" Paragraph below with qualification requirements in Section 014000 "Quality Requirements" and as may be supplemented in "Quality Assurance" Article.

* + - * 1. Qualification Data: For Installer, [**testing agency,**] and manufacturer.
        2. Manufacturer Product Certificates: Indicate compliance with requirements of specified products under “Performance Requirements” Article or indicated on Drawings.

Retain "Fire Propagation Characteristics Certificate" Paragraph below if factory fluid-applied air and water barrier is part of a wall assembly required to comply with NFPA 285.

* + - * 1. Fire Propagation Characteristics Certificate: From a qualified testing agency, documentation that air barrier system as a component of a wall assembly has been tested and passed NFPA 285. Include system classification number of testing agency on Shop Drawings.
        2. Product Test Reports: Test data for factory fluid-applied air and water barrier panel assembly, by qualified testing agency, indicating proposed factory fluid-applied air and water barrier assembly meets performance requirements.
        3. Warranty: Sample of unexecuted manufacturer warranty.
        4. Field quality control reports.
      1. QUALITY ASSURANCE
         1. Manufacturer Qualifications: A qualified factory fluid-applied air and water barrier panel assembly manufacturer experienced in manufacture of factory fluid-applied air and water barrier panel assembly as one of its principal products.
         2. Installer Qualifications: An experienced Installer approved by factory fluid-applied air and water barrier panel assembly manufacturer and employing applicators trained in application of specified products.
         3. Testing Agency Qualifications: Qualified independent agency experienced in the installation of the specified air and water barrier system, and qualified to perform observation and inspection specified in "Field Quality Control" Article to determine Installer’s compliance with the requirements of this Project. Testing agency to be acceptable to Architect and retained by the [**Contractor**] [**Owner**].
         4. Mockups: Provide factory fluid-applied air and water barrier panel assembly mockup application within mockups required in other Sections, or if not specified, in an area of not less than 150 sq. ft. (14 sq. m) of wall surface where directed by Architect for each type of backup wall construction. Include examples of surface preparation, crack and joint treatment, air barrier application, and flashing, transition, and termination conditions, and to set quality standards for execution.

Include factory fluid-applied air and water barrier system tie-in details between walls and roof, and with wall and foundation wall. Include penetrations and openings.

Approved mockups may become part of the completed work if undisturbed at time of Substantial Completion.

* + - 1. DELIVERY, STORAGE, AND HANDLING
         1. Deliver materials in original, unopened packaging and store in an enclosed shelter providing protection from damage and exposure to the elements.

Store within temperature limits required by manufacturer.

Store factory fluid-applied air and water barrier panels flat.

Comply with manufacturer’s requirements for safety and handling.

* + - * 1. Discard liquid sealants and adhesives that cannot be applied within their stated shelf life.
        2. Store accessory materials in a location with constant ambient temperatures of 50 to 80 deg F (15 to 27 deg C).
      1. FIELD CONDITIONS
         1. Cold Weather Conditions:

Factory Fluid-Applied Air and Water Barrier Panel: Comply with manufacturer's cold weather application instructions when atmospheric temperatures or substrate surface temperatures are less than 40 deg F (4 deg C).

Accessories and Sealants: Comply with manufacturer’s cold weather application instructions when atmospheric temperatures or substrate surface temperatures are less than 40 deg F (4 deg C).

Do not apply factory fluid-applied air and water barrier accessories to a damp or wet substrate or during snow, rain, fog, or mist.

* + - * 1. Exposure: Comply with manufacturer’s limitations on exposure of applied product.

Protect adjacent substrates from environmental conditions that affect air barrier performance.

* + - * 1. Coordinate installation of factory fluid-applied air and water barrier panel assembly with completion of roofing, below grade, factory fluid-applied membrane portion to site fluid-applied membrane portion and other work requiring interface with air barrier.
        2. Schedule work for observation of factory fluid-applied air and water barrier panel assembly applications prior to concealment.
        3. Ensure factory fluid-applied air and water barrier panel accessories are cured before covering with other materials.
      1. WARRANTY

Consult Tremco and USG representatives for available special project warranty terms and conditions.

* + - * 1. Manufacturer's Warranty for Factory Fluid-Applied Air and Water Panel Products: Manufacturer’s standard form in which manufacturer agrees to, at its option, replace each nonconforming product or refund the purchase price of the quantity of product shown to be nonconforming.

Manufacturer is not responsible for loss resulting from warranty-excluded limitations, outlined deterioration, or failure of air-barrier materials from the following:

Movement of the structure caused by structural settlement or stresses on the air and water barrier exceeding manufacturer's written specifications for elongation.

Mechanical damage caused by outside agents.

Access for Repair: Manufacturer to be provided with unimpeded post-occupancy access to the project facility and air-barrier system for purposes of testing, leak investigation, and repair.

Warranty Period for Factory Fluid-Applied Air and Water Panel Products: [Warranty period, warranty type] [from date of substantial completion].

1. PRODUCTS
   * + 1. MATERIALS
          1. Source Limitations: Obtain primary air barrier materials and air barrier accessories from single source.
       2. PERFORMANCE REQUIREMENTS

Retain "Air and Water Barrier Performance" Paragraph below if air-barrier serves as a primary or secondary drainage plane.

* + - * 1. Air and Water Barrier Performance: Factory fluid-applied air and water barrier panel assembly and seals to adjacent construction shall be capable of performing as a continuous air barrier system and as a water-resistive barrier flashed to direct incidental water to wall exterior, and interface with adjacent building air barrier system components.

Factory fluid-applied air and water barrier panel assemblies to be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

Generally, retain "Factory Fluid-Applied Air and Water Barrier Assembly Air Leakage" Paragraph below. Air-leakage value below is the maximum permitted by the IBC/IECC and ABAA. See the Evaluations.

* + - * 1. Factory Fluid-Applied Air and Water Barrier Assembly Air Leakage: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. (0.2 L/s x sq. m of surface area at 75 Pa), when tested according to ASTM E 2357.

Retain "Water Penetration under Static Pressure" Paragraph below for static-pressure method.

* + - * 1. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows:

No evidence of water penetration through factory fluid-applied air and water barrier assembly when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sqft (300 Pa) and no evidence of water penetration for 2 hours.

* + - * 1. Nail Sealability of the panel requirement: validate the panel (membrane and exterior sheathing board composite – not including the detailing sealant) according to ASTM D1970 Section 7.9 Nail Sealability modifying nail for façade anchoring mechanism.
        2. Fluid applied air barrier membrane requirement: minimum 200% Elongation according to ASTM D412

Retain "Fire-Resistance-Rated Assemblies" Paragraph below where factory fluid-applied air and water barrier panel is part of fire-resistance-rated assemblies. Indicate design designations of specific assemblies on Drawings.

* + - * 1. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
        2. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

Flame-Spread Index: 25 or less.

Smoke-Developed Index: 450 or less.

Retain "Fire Propagation Characteristics" Paragraph below only if products specified are part of a fire-resistance-rated assembly. Indicate rating, testing agency, and testing agency's design designation on Drawings. Consult Tremco and USG representatives for details of tested systems.

* + - * 1. Fire Propagation Characteristics: Provide factory fluid-applied air and water barrier panel assembly qualified as a component of a comparable wall assembly that has been tested and passed NFPA 285.
      1. FACTORY FLUID-APPLIED AIR AND WATER BARRIER PANELS
         1. Air and Water Resistive Sheathing Panel with Factory Fluid-Applied Membrane: ASTM C 1177/C 1177M, glass-mat-faced gypsum sheathing board with an elastomeric, UV-resistant synthetic polymer membrane.

Basis-of-Design Product: Subject to compliance with requirements, provide USG Corporation and Tremco Incorporated; Securock® ExoAir® 430 Panel.

Panel Thickness: 5/8 inch (15.9 mm) thick.

Panel Type: Type X.

Panel Size: 48 by 96 inches (1219 by 2438 mm) for vertical installation.

Air and Water Resistive Coating Thickness: Minimum 20 mils (0.5 mm) dry-film thickness (DFT).

Physical and Performance Properties:

Air Permeance; ASTM E 2178: Maximum 0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. (0.02 L/s x sq. m of surface area at 75 Pa) pressure difference.

Water Vapor Permeance; ASTM E 96/E 96M, Method B: Class III, vapor permeable; between 1.0 and 10 perms (57.5 and 690 ng/Pa x s x sq. m).

Combustion Characteristics; ASTM E 84: Class A.

Panel Product Antifungal Properties; ASTM D 3273: 10; 0 defacement.

VOC Content: 50 g/L or less.

Ultraviolet and Weathering Resistance: Maximum 12-month exposure.

Membrane Color: Light Orange.

* + - 1. AIR-BARRIER ACCESSORY MATERIALS
         1. General: Provide compatible air-barrier accessory materials furnished or recommended by factory fluid-applied air and water barrier panel manufacturer as required by Project conditions to produce a complete air-barrier assembly identical to tested assemblies meeting performance requirements.
         2. Primer: Liquid primer recommended by air-barrier manufacturer for substrates requiring field application of air-barrier materials.

Basis-of-Design Product: Tremco, Inc., **ExoAir**® **Primer**

* + - * 1. Fluid-Applied Air-Barrier Membrane: Site-applied synthetic polymer membrane for application to adjacent substrates, detailing, and repairs.

Basis-of-Design Product: Tremco, Inc., ExoAir® 230.

Volatile Organic Compound (VOC) Content: 35 g/L or less.

Volatile Organic Emissions (VOE): GREENGUARD certified, it has met the world’s most difficult and complete standards for low emissions of VOC’s into indoor air.

Adheres to California Department of Public Health (CDPH) Standard Method V1.1-2010.

Color: Light Orange.

* + - * 1. High- and Low-Temperature Flashing and Transition Strip: Self-adhering strip 22 mils (0.61 mm) thick, consisting of butyl laminated to an aluminized facer with a release liner.

Basis-of-Design Product: Tremco, Inc., [**ExoAir® 111**] [**ExoAir® 110AT**].

Tremco Proglaze® ETA is a transition assembly composed of pre-engineered, finished aluminum and silicone materials that are mechanically attached to the window and/or wall’s structural framing to insure a durable connection and seal. The system’s design absorbs thermal movement and wind-loading stresses. If required for Project, specify in this Section, or in Division 08 openings Sections.

* + - * 1. Wall Opening Transition Assembly: Cured low-modulus extruded silicone sheet, with reinforcing ribs, sized to fit opening widths, with aluminum race configured for insertion into aluminum framing extrusions, compatible with specified silicone joint sealant and fluid-applied membrane air-barrier.

Basis-of-Design Product: Tremco, Inc., Proglaze ETA Engineered Transition Assembly.

* + - * 1. Wall Opening Transition Sheet: Cured low-modulus extruded silicone sheet, compatible with specified silicone sealant and fluid-applied membrane air-barrier.

Basis-of-Design Product: Tremco, Inc., Proglaze ETA Connections Single-Ribbed Sheet.

* + - * 1. Reinforcing Mesh: Self-adhering fiberglass mesh, not less than 6 inches (152 mm) wide.

Basis-of-Design Product: Securock® ExoAir® Reinforcing Mesh.

* + - * 1. Joint Sealant for Exposed Air-Barrier Components: Single-Component, Nonsag, Non-Staining, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, Use NT; SWRI validated.

Basis-of-Design Product: Tremco, Inc., Spectrem 1.

Volatile Organic Compound (VOC) Content: 1 g/L or less.

Volatile Organic Emissions (VOE): GREENGUARD certified, it has met the world’s most difficult and complete standards for low emissions of VOC’s into indoor air.

Adheres to California Department of Public Health (CDPH) Standard Method V1.1-2010.

Color: Purple.

* + - * 1. Joint Sealant for Exposed or Concealed Air-Barrier Components: Single-Component, Nonsag, Moisture-Cure, Polyurethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, Use NT; SWRI validated.

Basis-of-Design Product: Tremco, Inc., Dymonic 100.

Volatile Organic Compound (VOC) Content: 40 g/L or less.

Volatile Organic Emissions (VOE): GREENGUARD certified, it has met the world’s most difficult and complete standards for low emissions of VOC’s into indoor air.

Adheres to California Department of Public Health (CDPH) Standard Method V1.1-2010.

Color: Green.

* + - 1. FASTENERS
         1. Screws for Fastening Factory Fluid-Applied Air and Water Barrier Panels to Cold-Formed Metal Framing: Steel drill-screws, ASTM C 1002, in length recommended by sheathing manufacturer for sheathing thickness, with organic-polymer corrosion-protective coating having a salt-spray resistance of more than 48 hours according to ASTM B 117.
         2. Screws for Fastening Factory Fluid-Applied Air and Water Barrier Panels to Wood Framing: Wood screws, ASTM C 1002, in length recommended by sheathing manufacturer for sheathing thickness, with organic-polymer corrosion-protective coating having a salt-spray resistance of more than 48 hours according to ASTM B 117.

1. EXECUTION
   * + 1. EXAMINATION
          1. Framing Examination: Examine framing to determine if work is ready to receive factory fluid-applied air and water barrier panels.

Verify surface flatness tolerances and framing spacing comply with Project requirements.

Verify adequate support is provided for factory fluid-applied air and water barrier panel edges.

Proceed with work once conditions meet manufacturer's written recommendations.

* + - * 1. Adjacent Substrate Examination: Prior to installation of accessory materials, examine adjacent substrates to receive transition treatment.

Verify substrates are sound, free of contaminants, adequately cured or aged, compatible with proposed transition materials, and free of obstructions or impediments that would result in failure of transition adhesion and failure of air-barrier assembly to perform in accordance with Project requirements.

Verify concrete and masonry surfaces are visibly dry, have cured, and are free from release agents, curing agents, and other contaminates.

Test for capillary moisture by plastic sheet method according to ASTM D 4263.

Verify masonry joints are filled with mortar and struck flush.

* + - * 1. Proceed with installation once conditions meet manufacturer's written recommendations and after unsatisfactory conditions have been corrected.
      1. PREPARATION
         1. Clean, prepare, and treat portions of work not requiring factory fluid-applied air and water barrier panel substrate in accordance with air-barrier manufacturer's written instructions.

Mask adjacent finished surfaces.

Remove contaminants and film-forming coatings from substrates.

Remove projections and excess materials and fill voids with substrate patching material.

Prepare and treat joints and cracks in substrate per ASTM C 1193 and membrane air-barrier manufacturer's written instructions.

* + - 1. INSTALLATION - FACTORY FLUID-APPLIED AIR AND WATER BARRIER PANELS
         1. Discard each factory fluid-applied air and water barrier panel with damage that compromises membrane continuity or impairs performance as an air-barrier, and is unable to be repaired according to manufacturer’s repair instructions.

Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

* + - * 1. Comply with ASTM C 1280, GA-253, and manufacturer's written instructions.

Fasten factory fluid-applied air and water barrier panels to wood framing with [**nails**] [**screws**].

Fasten factory fluid-applied air and water barrier panels to cold formed metal framing with screws.

Install panels with 3/8-inch (9.5 mm) gap where non-load-bearing construction abuts structural elements.

Install panels with 1/4-inch (6.4 mm) gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.

* + - * 1. Cut factory fluid-applied air and water barrier panels at penetrations, edges, and other obstructions of work to allow for application of air-barrier accessory materials. Fit factory fluid-applied air and water barrier panels closely against abutting construction.
        2. Install factory fluid-applied air and water barrier panels with long dimension perpendicular or parallel to framing. Abut ends and edges of factory fluid-applied air and water barrier panels centered over face of framing members. Offset factory fluid-applied air and water barrier panel joints by not less than one stud spacing.

Apply factory fluid-applied air and water barrier panels in pieces sized to provide minimum number of joints and optimum sheathing board arrangement. Arrange joints so that panels do not span between fewer than three support members.

Do not bridge building expansion joints; cut and space edges of factory fluid-applied air and water barrier panels to match spacing of structural support elements.

* + - * 1. Fasteners: Space fasteners maximum 8 inches (203 mm) o.c. and set back a minimum of 3/8 inch (9.5 mm) from edges and ends of factory fluid-applied air and water barrier panels and as required in indicated fire-resistance-rated designs.

Apply fasteners so heads are seated flush to the board product air-barrier membrane surface without breaking or punching through the surface.

Securely attach sheathing boards to substrate by fastening as indicated, complying with the following:

Retain one of first two subparagraphs below, as required to comply with requirements of Project and local codes.

Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.

Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.

ICC-ES evaluation report for fastener.

Retain subparagraph below if using steel stud framing. Revise to indicate other kinds of screw fasteners if required.

Use fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections.

* + - * 1. Coordinate factory fluid-applied air and water barrier panel installation with flashing, joint-sealant, and air-barrier accessory material installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
        2. Coordinate factory fluid-applied air and water barrier panel installation with materials installed over panels such that factory fluid-applied air and water barrier panels are not exposed to precipitation or left exposed at end of the workday when rain is forecast.
        3. Do not cover factory fluid-applied air and water barrier panels until sealants and accessory trims have cured [**and tested by Owner's testing agency**].
        4. Correct deficiencies in or remove factory fluid-applied air and water barrier panels that do not comply with requirements; repair substrates and reapply air-barrier components.
      1. INSTALLATION - ACCESSORY MATERIALS
         1. General: Install factory fluid-applied air and water barrier panels, transition strips, and accessory materials according to factory fluid-applied air and water barrier manufacturer's written instructions. Install strips and transition strips to form, connect, and seal membrane air-barrier material to adjacent components of building air-barrier system, including, but not limited to, roofing system air-barrier, exterior fenestration systems, door framing, and other openings.
         2. Sealants: Apply sealants in accordance with manufacturer’s installation instructions on a per-assembly basis.
         3. Seal punctures, voids, and seams. Patch with membrane strips extending 6 inches (150 mm) beyond repaired areas.
         4. Connect and seal exterior wall air-barrier membrane continuously to subsequently installed roofing-membrane air-barrier, concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings, using accessory materials.

Retain "Wall Openings Transition Assembly Installation" Paragraph below when utilizing Tremco ETA assembly at aluminum-framed wall openings; coordinate with requirements in corresponding Division 08 openings Sections.

* + - * 1. Wall Openings Transition Assembly Installation: Apply opening transition assembly so that a minimum of 3 inches (75 mm) of coverage is achieved over factory fluid-applied air and water barrier panels.
        2. Rough Openings: Treat rough openings with sealant or accessory products according to manufacturer installation instructions.
        3. Flashings: Seal top of through-wall flashings to factory fluid-applied air barrier air and water barrier panels with continuous transition strips of type recommended by sheet air barrier manufacturer for type of flashing.
      1. FIELD QUALITY CONTROL
         1. Testing Agency: Owner may engage a qualified testing agency to perform tests and inspections.

Inspections: Air-barrier materials, accessories, and installation are subject to inspection for compliance with requirements and photo documentation of conditions to be concealed by subsequent Work.

* + - * 1. Tests: As determined by Owner's testing agency from among the following tests:

Qualitative Air-Leakage Testing: Test air-barrier assemblies for evidence of air leakage according to ASTM E 1186, smoke pencil with pressurization or depressurization or ASTM E 1186, chamber pressurization or depressurization with smoke tracers.

Retain "Quantitative Air-Leakage Testing" Subparagraph below if testing to quantify air-leakage rate is required.

Quantitative Air-Leakage Testing: Test air-barrier assemblies for air leakage according to ASTM E 783.

Retain "Testing" referring Subparagraph below if wall air-barrier testing is described in Division 01 performance requirements or envelope commissioning Section; edit to suit Project requirements.

Testing: Refer to Section [**019113 “General Commissioning Requirements”**] [**019119.43 “Exterior Enclosure Commissioning"**] for additional testing and inspection requirements.

See Section 014000 "Quality Requirements" for retesting and reinspecting requirements and Section 017300 "Execution" for requirements for correcting the Work.

* + - * 1. Factory fluid-applied air and water barrier panels will be considered defective if they do not pass tests and inspections.
        2. Prepare test and inspection reports.
      1. CLEANING AND PROTECTING
         1. Coordinate installation of joint sealants with cleaning of joint sealant substrates and other operations that may impact installation or finished joint sealant work.
         2. Clean spills, stains, and overspray resulting from application, utilizing cleaning agents recommended by manufacturers of affected construction. Remove masking materials.
         3. Protect factory fluid-applied air and water barrier panels from damage from subsequent work. Protect membrane materials from exposure to UV light for period in excess of that acceptable to membrane air-barrier manufacturer; Contractor shall replace overexposed materials at their expense and retest.

END OF SECTION 072726

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